Coyote Valley Specific Plan

Hydrology Considerations

Existing Conditions

Water Supply

Water Quality & Flood Protection

City of San Jose
Council Study Session

September 29, 2006

Coyote Valley Specific Plan Water Goals

- Protect/enhance stream resources & habitats
- Protect surface & groundwater from pollution and contamination
- Protect from floods
- Ensure hydrologic balance and recharge
- Ensure adequate water supply
- Maximize use of conservation and water saving devices
- Utilize recycled water

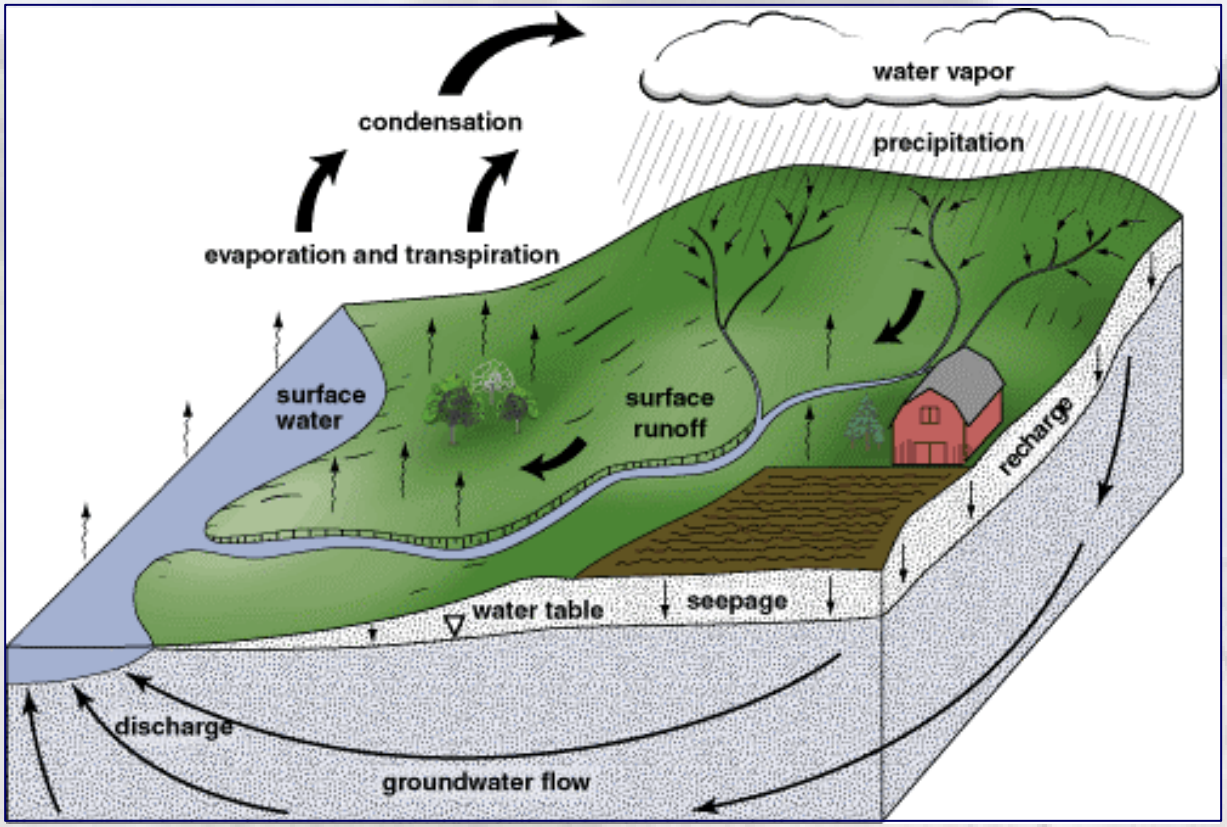
Coyote Valley Specific Plan Water Resources

Charles D. Anderson, PE

- Vice President of Schaaf & Wheeler Consulting Civil Engineers
- Over 20 Years Experience in the water resources field, specifically in Santa Clara County
- Helped prepare storm drainage manuals for Santa Clara County and Alameda County
- Hydrology presentations at seminars and professional society meetings
- Active with American Society of Civil Engineers at the local and national level

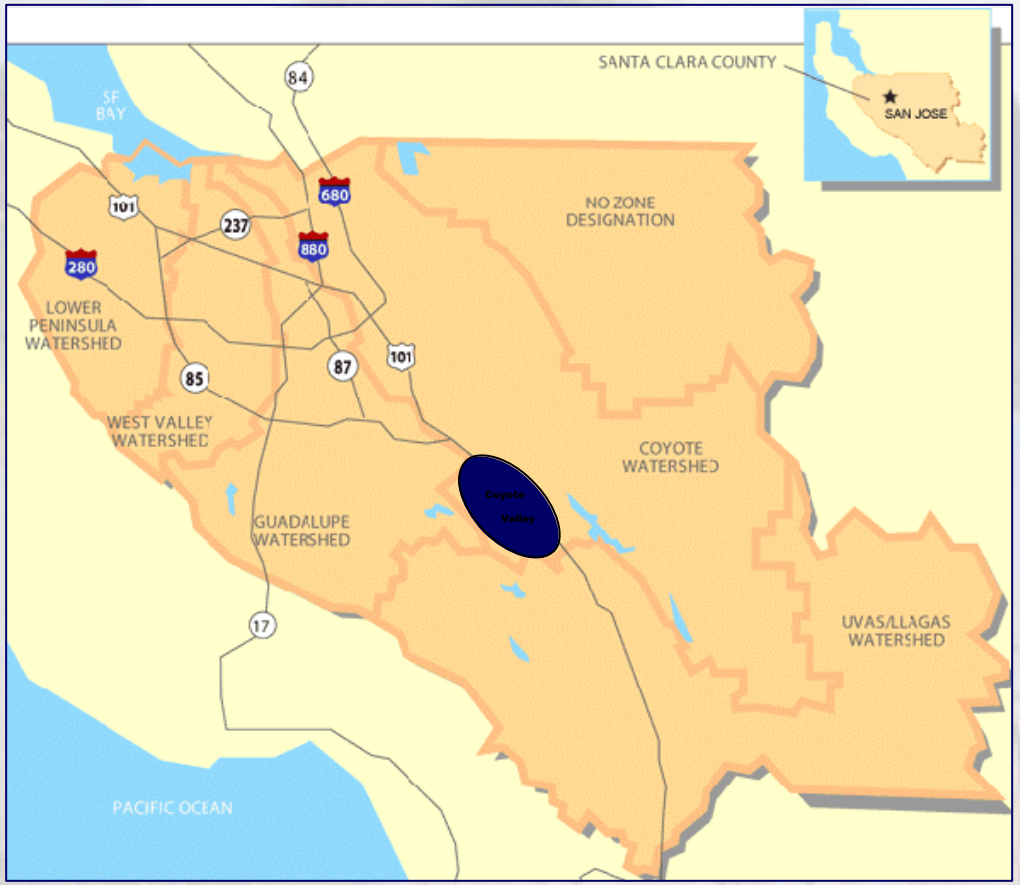
HYDROLOGIC SYSTEMS

Runoff, Water Quality and Water Supply are Interdependent



EXISTING CONDITIONS

Coyote Valley is Part of a Larger Watershed



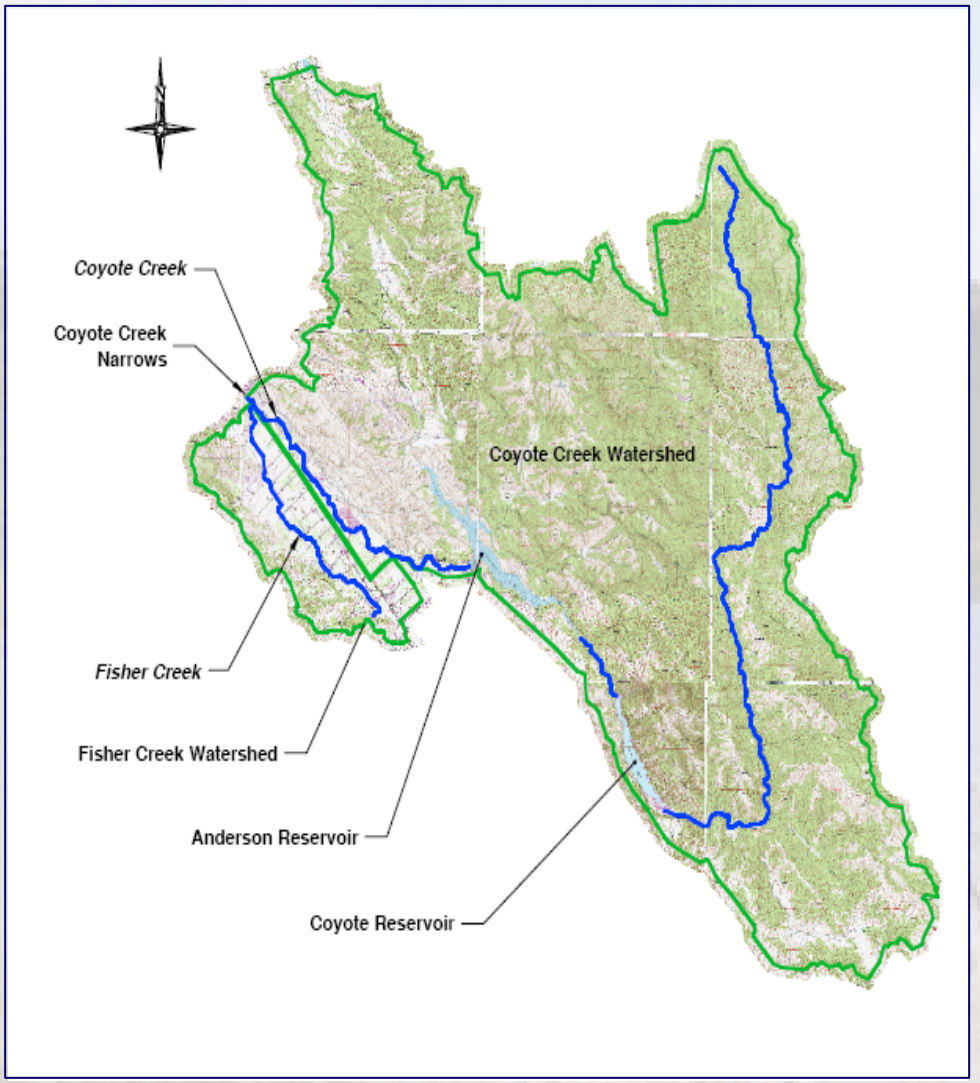
EXISTING CONDITIONS

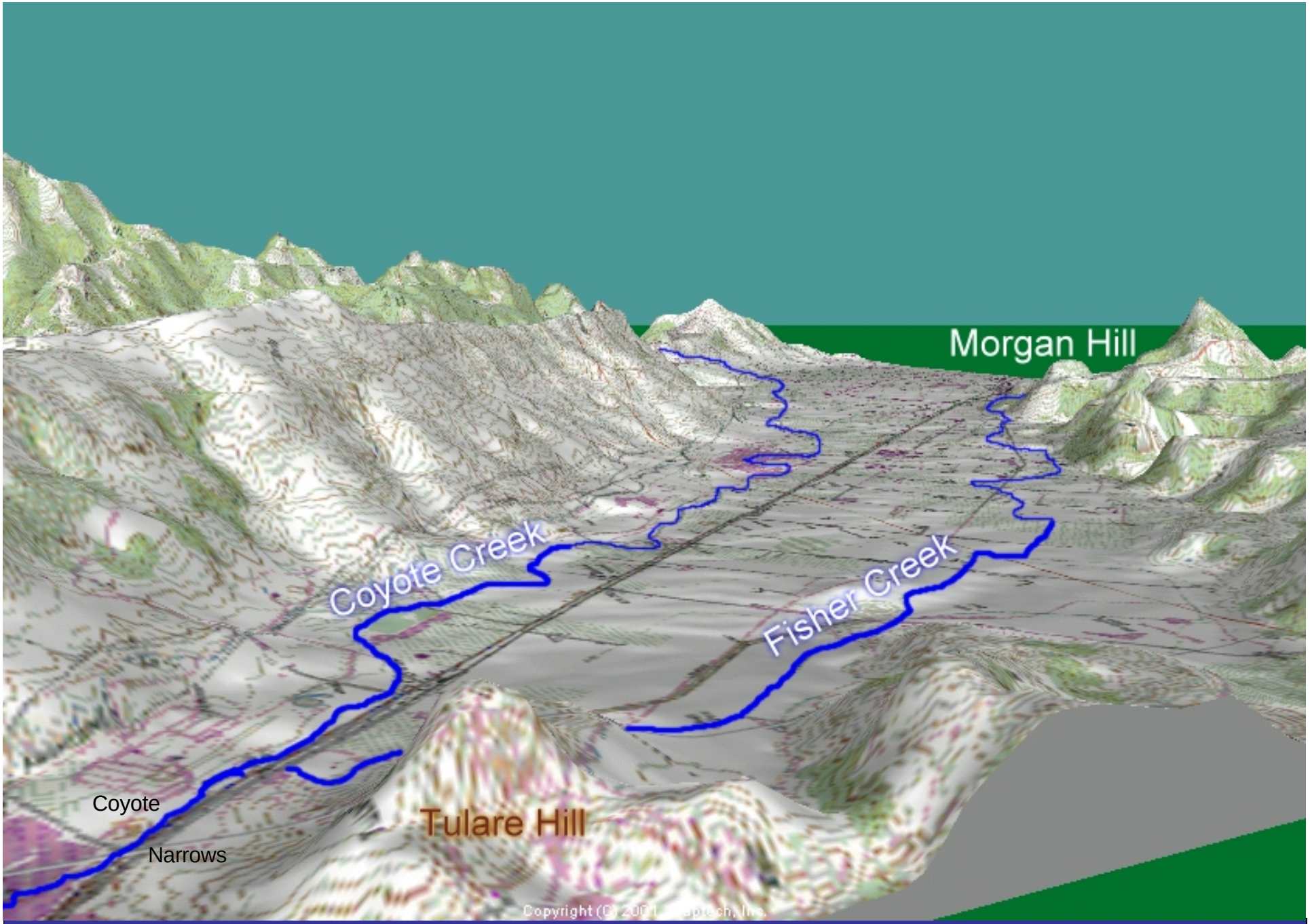
Coyote Creek

205 mi^2 drainage

Fisher Creek

16 mi^2 drainage




Morgan Hill
Coyote Creek
Fisher Creek
Coyote
Narrows
Tulare Hill

EXISTING CONDITIONS

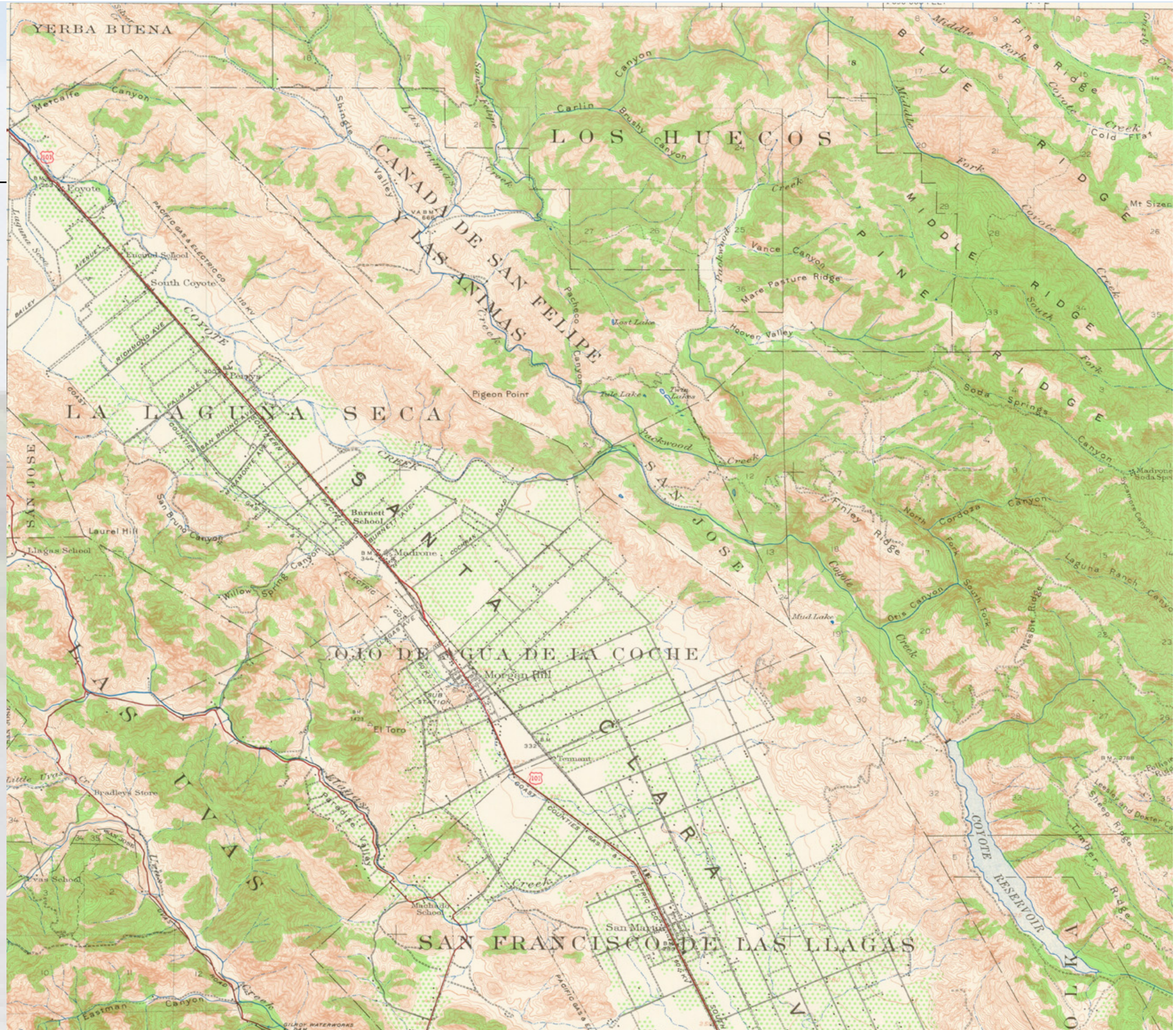
Historic Conversion of Coyote Valley to Agriculture

- Realignment of Fisher Creek
- Coyote Reservoir (1934)
- Coyote Canal (1930s)
- Anderson Reservoir (1950)

1917

LOS HUECOS
CANADA DE SAN FELIPE Y LAS ANIMAS
LA LAGUNA SECA
SANTA CLARA
OJO DE AGUA DE LA COCHE
SAN FRANCISCO DE LAS LLAGAS
LAS UVAS
SAN JOSE
PUEBLO LANDS OF SAN JOSE
Metcalfe Canyon
Carlin
Coyote
Encinal School
South Coyote
Perrys
Pigeon Point
Madrone
Laurel Hill
Llagas School
San Bruno Canyon
Willow Spring Canyon
Morgan Hill
El Toro
Tennant
Bradleys Store
Uvas School
Machado School
San Martin
Paradise Valley
Vance Canyon
Mare Pasture Ridge
Hoover Valley
Lost Lake
Tule Lakes
Twin Lakes
Middle Ridge
Pine Ridge
Finley Ridge
Soda Springs Canyon
Otis Canyon
Nesbit Ridge
Mud Lake
Coyote Creek
Llagas Creek
Uvas Creek

1939


YERBA BUENA
LOS HUECOS
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SAN FRANCISCO DE LAS LLAGAS
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Paradise Valley
Machado School
Bradley's Store
Uvas School

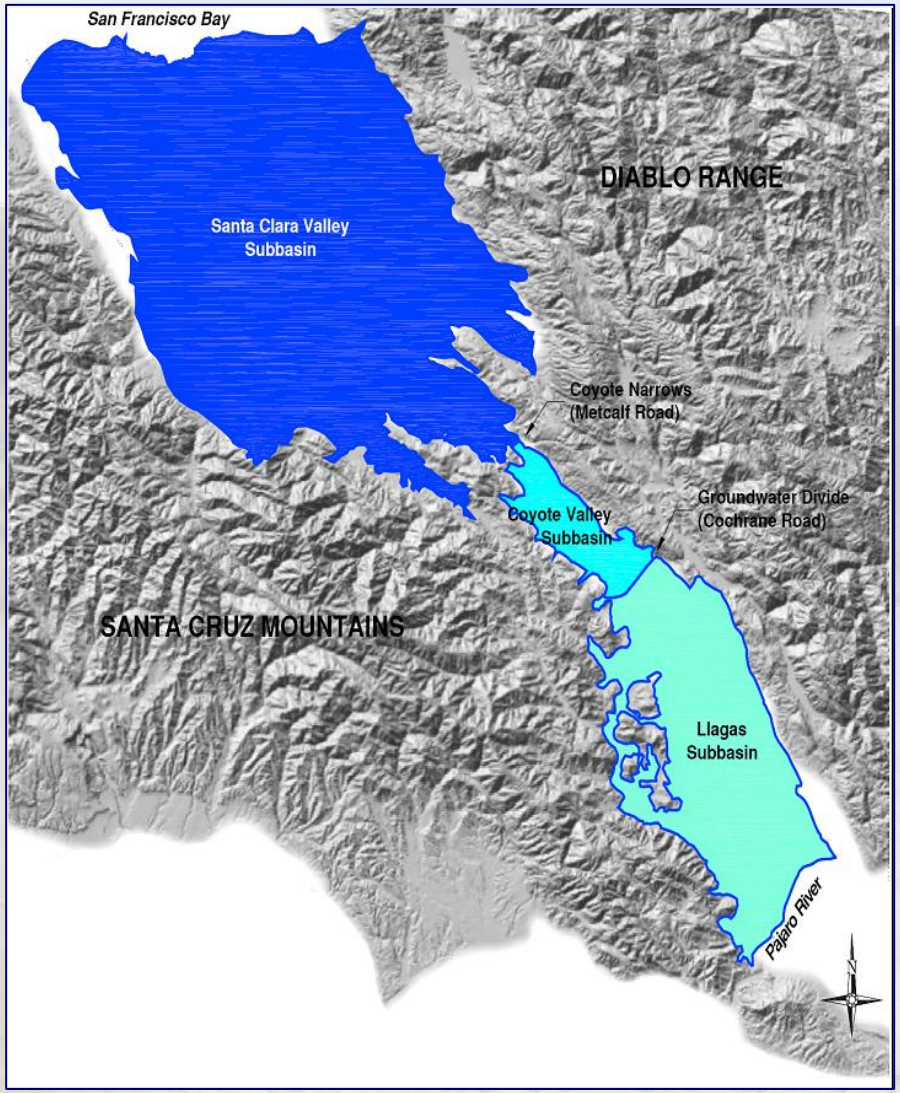
EXISTING CONDITIONS

Groundwater Basins

Llagas (Monterey Bay)

Coyote (San Francisco Bay)

Santa Clara (San Francisco Bay)



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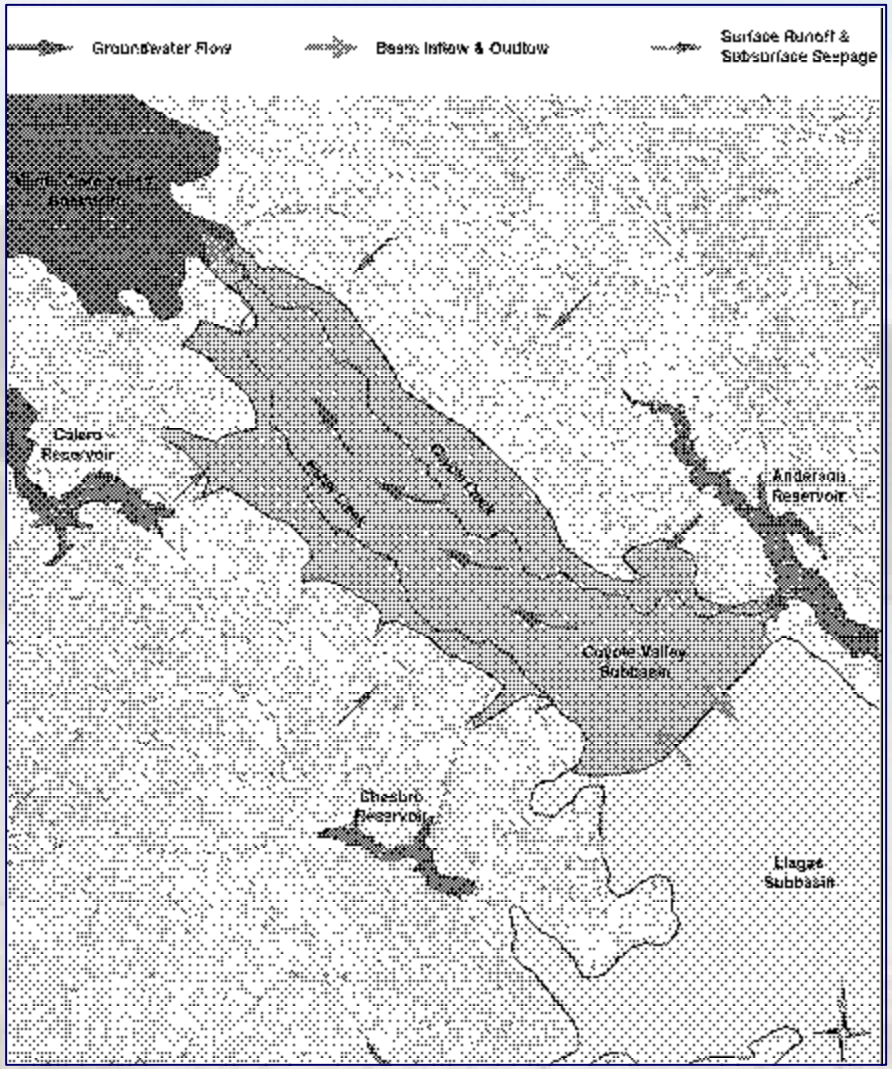


QUESTIONS?

Coyote Valley Specific Plan Water Resources

Melanie Richardson, SCVWD

- Assistant Operating Officer of Water Supply Management Division
- Over 16 Years Experience in Santa Clara County water resources
- Vice President of Northern California WateReuse
- Hydrology presentations at seminars and professional society meetings
- Vice Chair of City of San Jose Parks and Recreation Commission

Water Supply

Policy Context

- Role of the Santa Clara Valley Water District
- SCVWD Guiding Principles for CVSP
- Urban Water Management Plans
- SB610 requires the preparation of a CVSP Water Supply Assessment to demonstrate an adequate water supply for CVSP at build out

Water Supply

Santa Clara Valley Water District's Role

- SCVWD acts as CEQA "Responsible Agency" for certain aspects of the Coyote Valley Specific Plan (i.e., operation of the water supply facilities system)
- SCVWD manages the Coyote Valley groundwater sub-basin to maintain long term stability and preserve local water resources
- SCVWD is the primary wholesaler for the water supply in Santa Clara County
- SCVWD participates in selecting a preferred alternative for water supply to ensure consistency with the long-term planning goals for the County

Water Supply

SCVWD's Guiding Principles for CVSP

- To ensure that a reliable supply of high-quality water is provided to the residents and businesses within the Coyote Valley Specific Plan area and the rest of Santa Clara County

- To aggressively protect groundwater resources from contamination and the threat of contamination. The Coyote Valley sub-basin is shallow and sensitive to contamination. Extra measures must be taken to insure groundwater protection.

WATER SUPPLY

- All potable water used in Coyote Valley is pumped from groundwater stored in the Coyote Sub-basin.
- The Coyote Sub-basin is in rough balance, meaning the amount of water flowing out of the basin is approximately equal to the amount of water flowing into the basin and water levels are stable.
- The Santa Clara Valley Water District manages releases of stored water from Anderson Reservoir to maintain the basin stability.

WATER SUPPLY – Urban Water Management Plans

- Urban Water Management Plans (UWMP) are state mandated 20-year water supply plan, updated every 5 years
- UWMPs are the foundation for assessments
- City of San Jose UWMP (2005)
- Great Oaks Water Company, UWMP (2005)
- SCVWD UWMP (2005)

WATER SUPPLY

The SCVWD Urban Water Management Plan has accounted for 18,500 acre-feet per year for CVSP demand. The UWMP concludes that water supply will be able to meet projected county-wide water demands through 2030 for normal, single dry, and multiple dry years through a combination of techniques, including

- aggressive water conservation; and
- significant investments.

WATER SUPPLY - City of San Jose 2020 General Plan

Water Resource Goals & Policies

- The City should encourage more efficient uses of water by promoting water conservation and the use of water-saving devices.
- The City should promote the use of reclaimed water when feasible, particularly for industrial users, for irrigation and in groundwater recharge areas.
- Water resources should be utilized in a manner which does not deplete the supply of surface or groundwater, and efforts to conserve and reclaim water supplies, both local and imported, should be encouraged.
- The City should protect groundwater recharge areas, particularly creeks and riparian corridors.
- When new development is proposed, the potential for surface water and groundwater contamination should be assessed and appropriate preventative measures should be recommended

WATER SUPPLY - Assessments

- SB 610 & SB 221 became effective January 2002
- Purpose is to improve linkage between available water supply & local land use decisions
- SB 610 applies to General Plan & Specific Plan updates, SB 221 applies to approval of residential subdivisions
- Promote more collaborative planning between local water suppliers/wholesalers and local jurisdictions
- Requires detailed water availability information be provided to City decision-makers prior to project approval
- Include information and findings in CEQA documents

WATER SUPPLY - Potential Sources

- Ground Water
  - Primary near term source
  - Extraction from Coyote Sub-basin/additional recharge facilities needed
  - Extraction from Santa Clara Sub-basin/with mitigation
- Recycled Water
  - Longer term solution
  - Expansion of fully advanced treated recycled water for potable and non-potable use
- Water conservation - aggressive implementation
- Surface water utilization – facilities expansion

QUESTIONS?

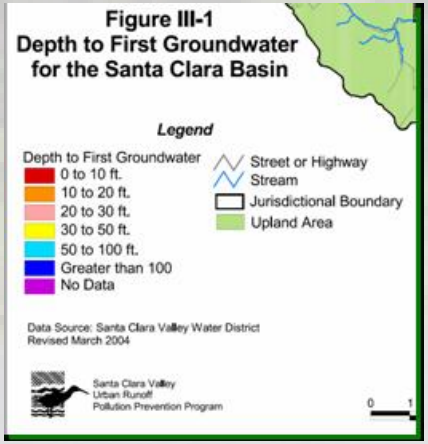
WATER QUALITY PROTECTION

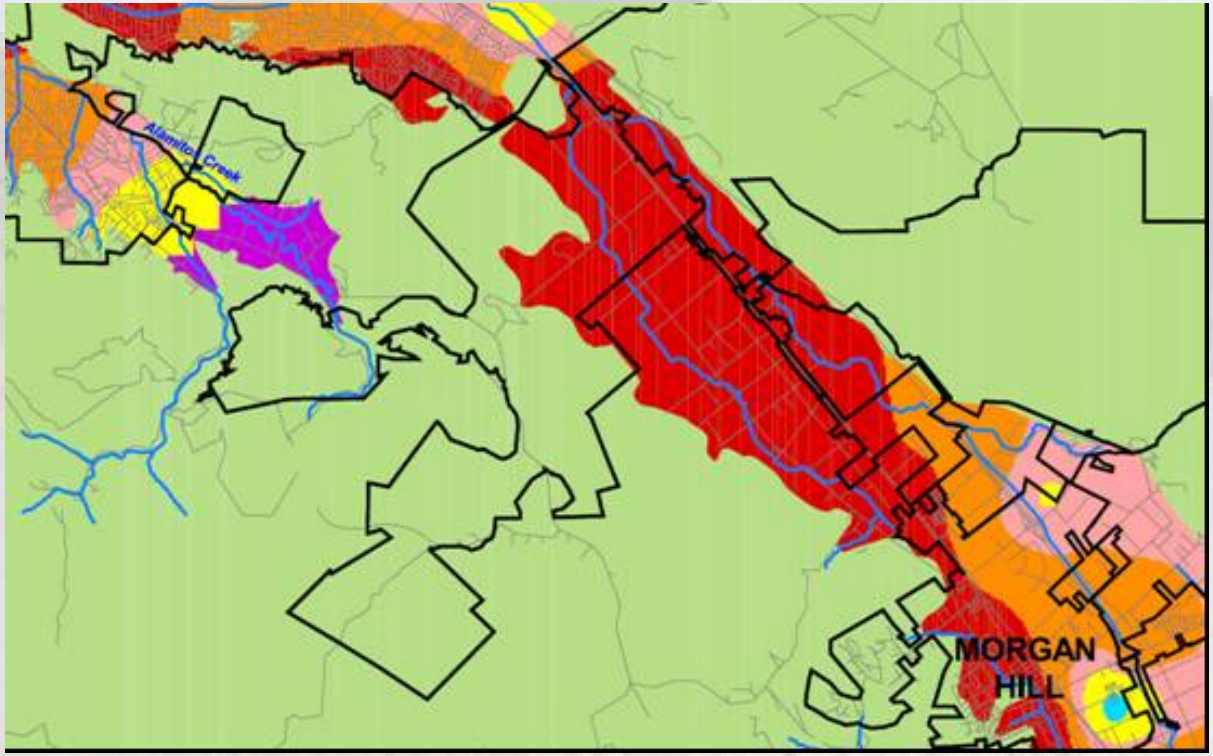
Issues

- Groundwater Protection
- National Pollutant Discharge Elimination System Requirements
  - Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP)
  - C.3 Provisions
  - Hydromodification Management Plan (HMP)
- Nitrates
- Perchlorate

WATER QUALITY PROTECTION

Groundwater Protection





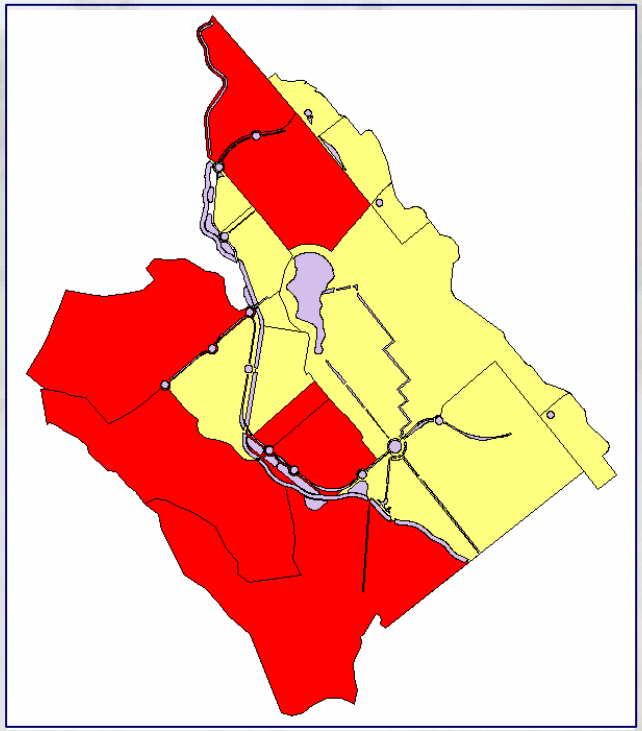
WATER QUALITY PROTECTION

Hydromodification Management Program (HMP)

- Concerned with additional bank erosion & sedimentation
- Fisher Creek restored as stable channel
- Coyote Creek stability
- Operation of Anderson Reservoir appears to influence hydromodification on Coyote Creek more than CVSP development

WATER QUALITY – NPDES (HMP)

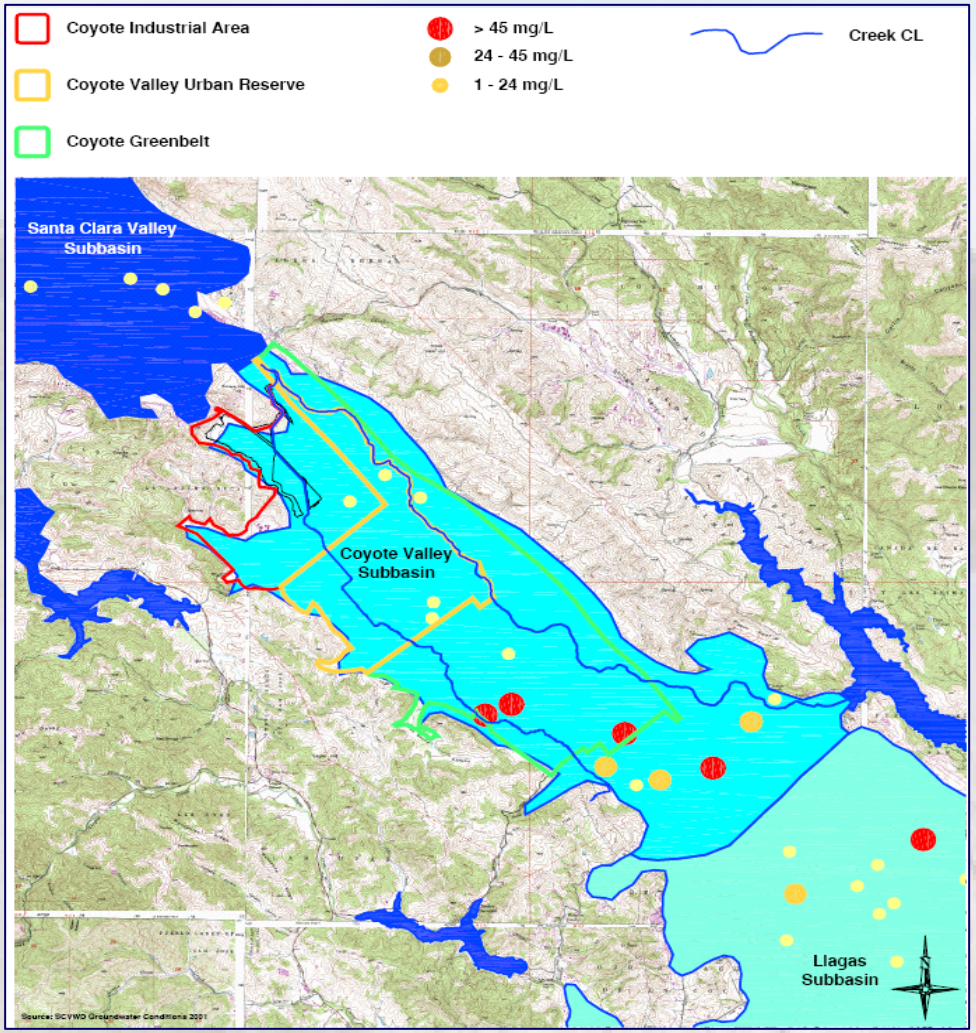
Coyote Valley HMP Basin Issue



- SCVURPPP prohibits percolation for groundwater protection
- Basins located in red areas cannot drain within 3 to 5 days, leading to vector control and public health problems
- City is working with SCVURPPP, the SCVWD & the San Francisco Regional Water Quality Control Board

WATER QUALITY PROTECTION

Nitrates

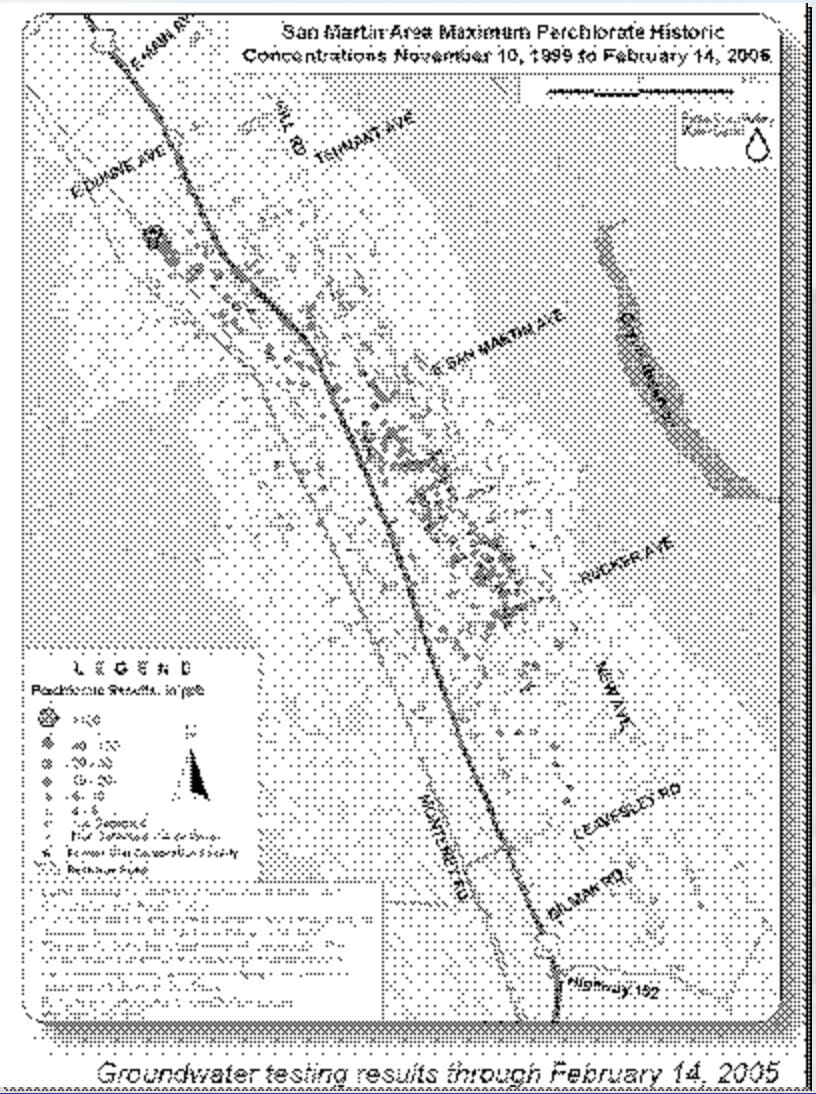


WATER QUALITY PROTECTION

Perchlorate

Present in the Llagas Basin

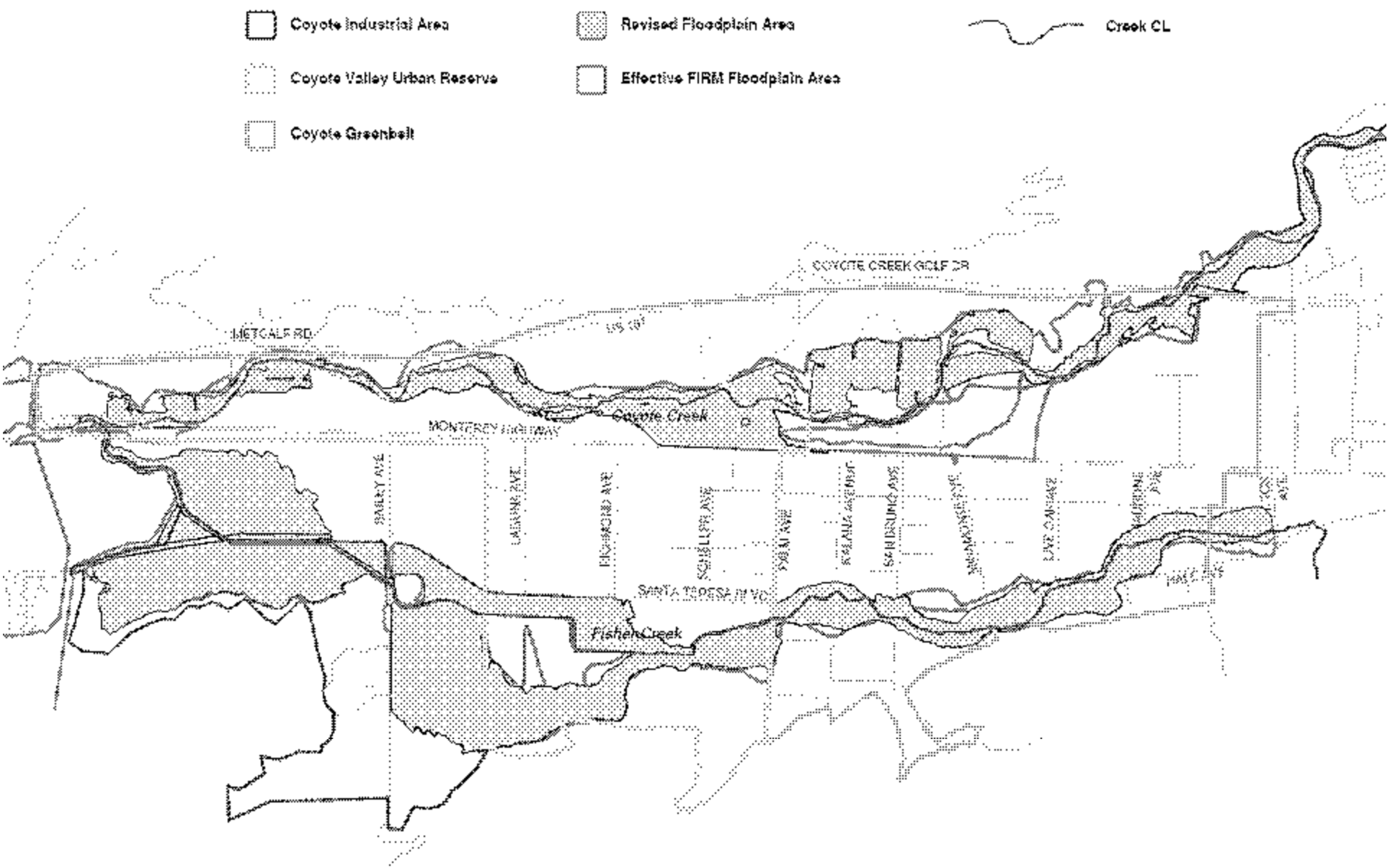
Highlights importance of not over-pumping within Coyote Basin, which might draw contamination plume northward.



FLOOD PROTECTION

Flood Risk – Return Period

	2-year	10-year	25-year	100-year
Annual risk of event	50%	10%	4%	1%
Risk of at least one event in 5 years	97%	41%	18%	5%
Risk of at least one event in 10 years	99.9%	65%	34%	10%
Risk of at least one event in 30 years	99.999%	96%	71%	26%
Risk of at least one event in 50 years	99.999%	99%	87%	39%
Risk of at least one event in 100 years	99.999%	99.997%	98%	63%

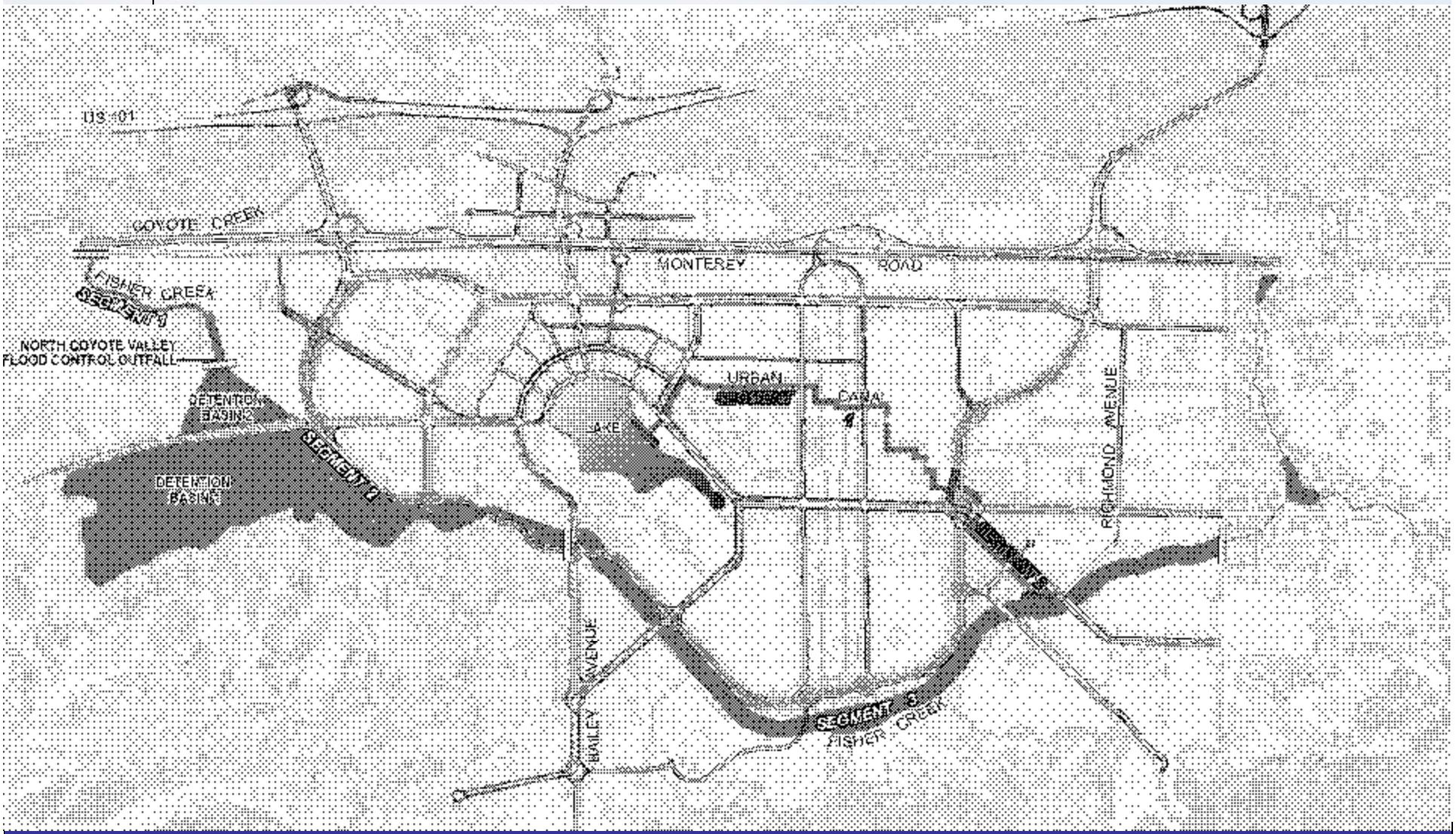

Coyote Industrial Area
Revised Floodplain Area
Creek CL
Coyote Valley Urban Reserve
Effective FIRM Floodplain Area
Coyote Greenbelt
COYOTE CREEK GOLF DR
METCALF RD
MONTEREY HIGHWAY
Coyote Creek
SANTA TERESA BLVD
Fisher Creek

FLOOD PROTECTION

"Blue Infrastructure" = Mitigation through Project Design

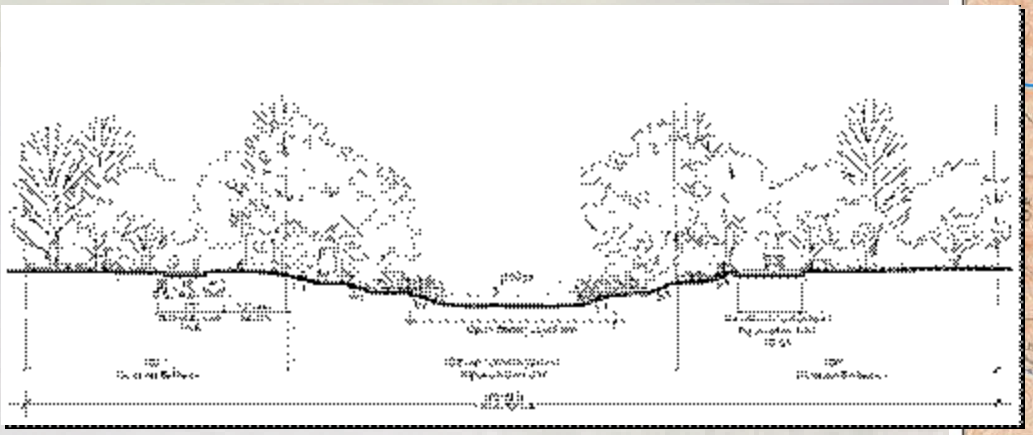
- Floodplain Storage Preservation in Laguna Seca
- Fisher Creek realignment & restoration
- Coyote Creek Riparian Buffer
- Coyote Lake
- Urban Canal

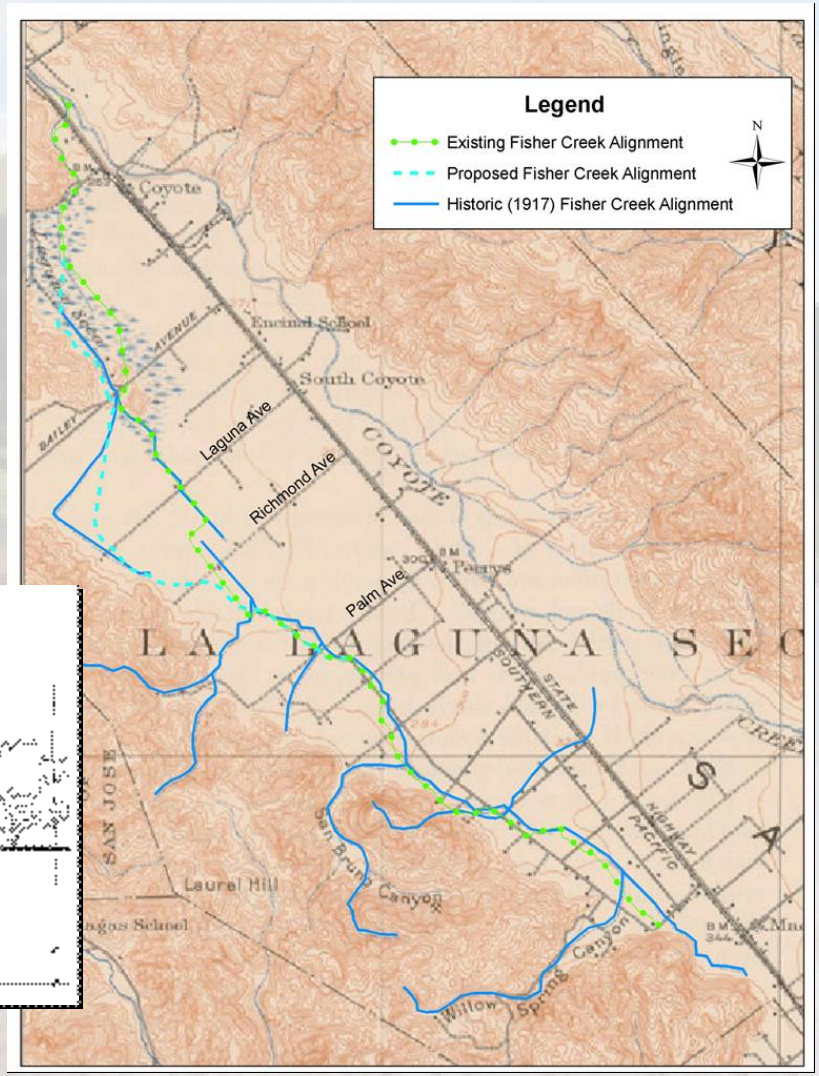
BLUE INFRASTRUCTURE



BLUE INFRASTRUCTURE

Fisher Creek Realignment & Restoration





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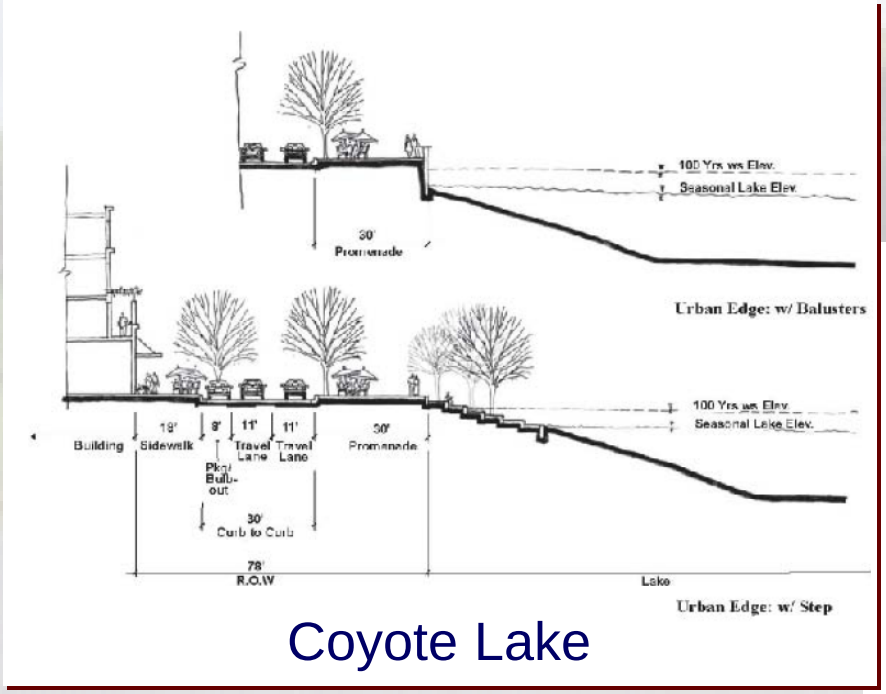
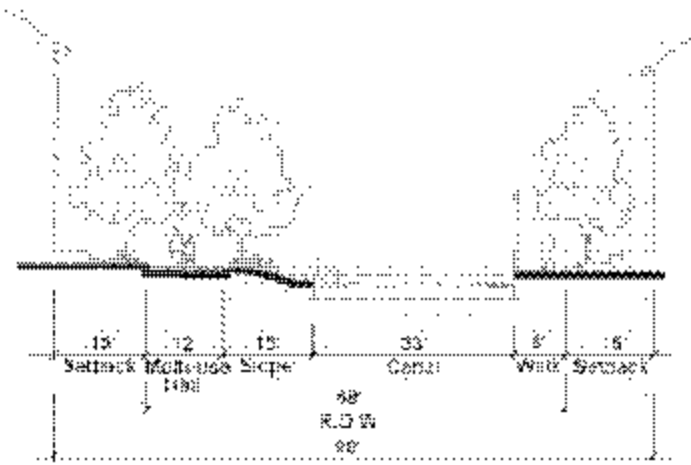


Coyote Lake

Urban Canal



MITIGATION THROUGH PROJECT DESIGN

Laguna Seca Function (off-stream storage)

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Coyote Valley Specific Plan

Flood and Water Quality Protection

QUESTIONS?

WATER RESOURCES – Next Steps

- Complete CVSP Water Supply Assessment
- WSA Review by SCVWD Board (late Oct.)
- WSA Approval by City Council (early Nov.)
- Draft Environmental Impact Report
- Refine CVSP as needed